

What is claimed is:

1. A data output circuit which outputs data on an
2 internal bus line onto an external bus line, comprising:
3 comparison means for comparing data on the
4 external bus line and data to be output on the internal
5 bus line;
6 inversion means for outputting a signal
7 obtained by inverting the data on the internal bus line
8 when the number of changed bits exceeds half the total
9 number of bits on the basis of an output result from
10 said comparison means; and
11 control means for outputting an inversion
12 display signal representing that the data has been
13 inverted.

2. A circuit according to claim 1, wherein said
2 comparison means, said inversion means, and said control
3 means constitute an output data control unit.

3. A circuit according to claim 2, further
2 comprising:
3 an amplifier which amplifies read data;
4 data latch means for latching data output from
5 said amplifier; and
6 input/output means for transmitting an output
7 data bus signal from said output data control unit as

8 output data onto the external data bus.

4. A circuit according to claim 3, wherein said
2 input/output means feeds back the output data to said
3 comparison means.

5. A circuit according to claim 3, further
2 comprising clock signal supply means for supplying a
3 clock signal to said data latch means, said output data
4 control unit, and said input/output means.

6. A circuit according to claim 1, wherein the
2 data on the internal bus line includes data read out
3 from storage means.

7. A circuit according to claim 1, wherein said
2 comparison means and said control means are arranged for
3 each of groups obtained by classifying internal bus
4 lines into a plurality of groups.

8. A data output method of outputting data on an
2 internal bus line onto an external bus line, comprising
3 the steps of:

4 comparing data on the external bus line and
5 data to be output on the internal bus line;

6 when the number of changed bits exceeds half
7 the total number of bits on the basis of a comparison

8 result, inverting the data on the internal bus line to
9 output the data onto the external bus line; and
10 outputting a data inversion signal
11 representing that the data has been inverted.

9. A method according to claim 8, wherein the
2 comparison step comprises the step of receiving a clock
3 signal.

10. A method according to claim 8, further
2 comprising the step of reading out the data on the
3 internal bus line from storage means.

11. A method according to claim 8, wherein
2 the comparison step comprises the step of
3 performing the comparison step for each of groups
4 obtained by classifying internal bus lines into a
5 plurality of groups, and
6 the output step comprises the step of
7 performing the output step for each of the groups
8 obtained by classifying the internal bus lines into the
9 plurality of groups.